

“Chemicals in Drinking Water” Lab Name_____period__

Materials

- “Drinking water” solution in a 1,000 ml beaker
- Empty 250 ml beaker
- Burners or hot plates
- Ring stands if using burners
- Matches if using burners
- Tongs
- Graduated cylinder
- Hot pads
- Scale
- Calculator
- Safety goggles

Procedure

1. Using a graduated cylinder, collect 100-ml beaker of “drinking water” from one of the 1,000-ml beakers. Record the type of contaminant in your water in Table 1.
2. Collect a 250-ml beaker and measure its mass using a scale. Record its mass in Table 1.
3. Carefully pour all of the drinking water into the empty beaker. Be careful not to spill.
4. Place the beaker with the drinking water on the hot plate or ring stand.
5. Turn the hot plate control knob to the setting provided by your teacher. If using a burner and ring stand, light your burner and set the flame to the level your teacher shows you.
6. Allow the water to come to a light boil. DO NOT allow your water to boil vigorously as you will lose some of your contaminant to splattering.
7. Begin working on questions 1,2,7,8 and Extra Credit while monitoring your solution.
8. When your water is completely boiled off, turn off your hot plate or burner.
9. Using a hot pad or tongs, carefully move your beaker to the lab table to cool.
10. Place the beaker on the scale and record the mass of the beaker and contaminant in Table 1.
11. Calculate the mass of the contaminant and record the amount in Table 1.
12. Calculate the concentration of your contaminant and record the results in mg/L in Table 1.
13. **SHOW YOUR WORK** to the right of Table 1.

Table 1

Contaminant	
Mass of empty 500-ml beaker in g	
Mass of beaker and Contaminant in g	
Mass of the contaminant in mg (pay attention to units)	
Volume of drinking water in L	0.1 L
Concentration of the Contaminant in mg/L	

Questions

1. What was your contaminant? _____
2. Check the EPA Drinking Water Standards and record the Maximum Contaminant Level (MCL) for your contaminant.

3. What was the concentration of your contaminant in your drinking water? _____mg/L
4. Does this concentration exceed EPA Drinking Water Standards? YES or NO
5. If your concentration is above the MCL, by how much is the MCL exceeded? _____mg/L
6. Look at the amount of contaminant in your beaker and compare that with the mass. Now consider the MCL for your contaminant. What does this tell you about the EPA Drinking Water Standards?
7. What are the health effects of your contaminant?
8. What are some of the sources of your contaminant? (Where does it come from?)

Extra Credit: How can drinking water be treated to remove this contaminant? Cite your source.